The New York City Trans-Fat Ban: Agenda-Setting, Policy Diffusion, and Public Health

By

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Abstract

New York City has often prided itself on being at the forefront of public health policy and reform. This is certainly the case in its recent action to ban trans fats in food sold in the food service industry. The purpose of this master's paper is to analyze the politics of the enactment of the trans-fat ban. I hypothesize that symbolic politics trumped scientific evidence in the course of legitimating a ban the measurable public health outcomes of which would not be straightforward to measure.

I used a triangulation of methods, including review of primary documents, media coverage, and in-depth telephone and e-mail interviews with key stakeholders and observers to elucidate the critical shaping factors influencing the ban's passage.

I found that significant political factors came into play in the passage of the ban, although the scientific evidence also weighed heavily. For example, the direction of the Office of the Mayor and the Health Commissioner, as well as the overall political environment of New York City itself, made such a ban much easier to pass than would have been true in many other environments, even with a stronger evidence base. Schattschneider's classic observation that only losers broaden the scope of conflict is illustrated by food service interests' argument that they did not have an adequate opportunity to raise objections to the ban.
Stakeholders acknowledged that measuring health outcomes post-ban would likely be impossible, but nonetheless felt that the ban would be in the best interests of New Yorkers' health. My secondary hypothesis, that New York City would be interested in influencing the national agenda, was partially supported: stakeholders felt that trans-fat bans were probably on the national horizon in any case, and were not averse to "taking credit for what was going to happen anyway," but also seemed sincerely interested in improving the general health of New Yorkers.

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Introduction

New York has been a precedent-setter when it comes to attempting to modify its citizens' behavior, including banning what it deems to be harmful. Recently, for example, New York City made international headlines as the first city to ban smoking in many public places. On December 5, 2006, the New York City Board of Health voted to adopt the first ban on trans fats in restaurant cooking of any major city*. New York's trans fat ban was a landmark effort to advance public health in the city and it provided a model for other cities and states. Regardless of the specific arguments for and against the ban, the New York City trans fat ban represents the passing of a controversial public health initiative. The political and social environment that allowed this to happen is worth inspection.

Although natural trans fats exist, trans fats are mostly a creation of a manufacturing process meant to harden oils to be used as a cooking alternative for saturated fat-containing butter or lard. They also increase the shelf-life of many products and may be a component of the taste many people have come to love in certain products. Goods containing trans fats include baked products (cookies, cakes), deep fried foods, and margarine, and they are listed in the ingredients label as hydrogenated oil, partially hydrogenated oil, or shortening.

Paradoxically, trans fats began as a 'healthy' alternative for the appropriately maligned saturated fats, trans fats began receiving negative attention in medical journals. Studies have shown that trans fat is likely even worse than is saturated fat at disrupting the HDL/LDL balance in the body. While saturated fat increases both the bad (LDL) and the good (HDL) cholesterol, trans fats have been shown to increase the LDL and decrease the HDL, as sort of double hit to the cholesterol profile. Also, while there doesn't seem to be any known physiological benefits of trans fats consumption, other studies have shown linkages between trans fats and incident coronary heart disease. (Gillman 2007)

**Other cities, such as Chicago, had explored bans and had even passed limited restrictions, but New York City's was the first comprehensive ban on trans fats in restaurants.*

In anticipation of changes in FDA regulations that require all packaged food manufacturers to list trans fat content in nutrition labels, most manufacturers began removing trans fats in 2004, anticipating the January, 2006 date on which the FDA regulation would take effect. Some fast food restaurants have begun limiting their trans fats: Wendy's has switched to a soy-corn blend cooking oil; KFC is also experimenting with trans fat-free oil substitutes to use in frying. (Lueck and Severson 2006)

New York City had made an earlier request that restaurants themselves volunteer to remove trans fats, but the New York City Board of Health, made up mostly of physicians and health professionals, was unhappy with the response from restaurants. Unanimously adopted, the ban itself gave restaurants until July 1, 2007 to remove all oils, margarines, and shortening from recipes that amount to more than 0.5 g of trans fat per serving. They would have until July 1, 2008 to take all remaining items exceeding that limit off the menu. The new city ordinance also required that restaurants already providing calorie counts on web sites or other publicly available sources before March 1, 2007 must prominently display the caloric content of foods on menu boards or near the cash register. This second, and much less discussed part of the ban will affect roughly 10% of New York City restaurants and will mostly pertain to fast food restaurants. (Lueck and Severson 2006)

Michael Bloomberg, mayor of New York City, was a major player in the passing of the trans fat ban. He has apparently made public health initiatives a focus of his administration. The trans fat ban comes after his championing of the policy to remove smoking from bars, the last indoor bastions against nonsmoking, in New York City in 2003. In addition, he appointed Dr. Thomas R. Frieden, a man labeled by some as an "activist," as health commissioner,. Frieden's growing legacy as health commissioner is one of searching for ways to tackle the chronic diseases that are prevalent in New York City. He was a major actor in the city smoking ban. His acceptance of the position of health commissioner was reportedly contingent upon Mayor Bloomberg's willingness to take a hard line on tobacco, and he advocates the role of

government in taxing health-risky behavior to enact behavioral change, as opposed to asking people to make the change. (The Congressional Quarterly 2005) Dr. Frieden has advanced a program called Take Care New York that identifies focus areas for individual and public health change. It is no surprise then that these two public health-minded individuals, Bloomberg and Frieden, were willing to advocate for a trans fat ban in the face of pressure from the city's restaurant interests.

Restaurant owners team up with bloggers and opinion writers to counter pro-ban arguments. Restaurateurs and "antigovernment" bloggers generally comment on the role of government in limiting individual choice in what we eat and warn of a slippery slope culminating in government interference in all foods, including what we eat inside the walls of our own homes. The restaurant industry would have preferred a much weaker policy, requiring only full disclosure of trans fat content. Other counter-ban arguments include the burden on restaurant owners to change recipes and the possible sacrifice in taste. Dan Flesher, a National Restaurant Association spokesman, offered this statement: "This is a misguided attempt at social engineering by a group of physicians who don't understand the restaurant industry." (Lueck and Severson 2006)

Some take issue with specifics of the policy. Mark S. Inzetta, a vice president and lawyer for Wendy's, said of the plan to require only restaurants who previously offered caloric information to prominently display caloric content that it "creates an incentive not to provide anything in the future." (Lueck 2006)

Pro-ban pundits counter with discussions of the externalities of the health of individuals who eat trans fats and the public health benefits of a healthier population. Estimates of reduced mortality from cardiovascular causes are cited often. Many of these estimations and cost-benefit scenarios are based on several assumptions intended to replace unknown costs and benefits, but the most conservative estimates seem to show a large measure of benefit. The likening of trans fats to a hazardous and unnecessary chemical is a popular argument. Mayor

Bloomberg responds to critics by saying that the city is "...not going to take away anybody's ability to go out and have the kind of food they want, in the quantities they want...We are just trying to make food safer." Peter F. Vallone Jr., a member of the City Council, said "We regulate alcohol, we regulate tobacco, and this is no different...Ideally, the federal government should be doing this...But we can't wait for them, so it is up to New York to lead the entire nation." (Lueck 2006)

The trans fat ban is appropriate for a policy analysis that will explain the policy's origins and the legitimation strategies of its supporters. Several questions organize the analysis: How is it that the ban passed unanimously? Why weren't restaurant representatives more effective in promoting their point of view? What health effects for New Yorkers over the next 15, 20, 50 years can be attributed to the ban – if, indeed, any such valid attribution can be made? What are the possibilities that the New York policy action may diffuse to the rest of the country, and were members of the New York City Board of Health thinking about these diffusion effects when they voted on the policy? What are the policy's unintended effects? Already, news stories describe Starbucks' baked goods suppliers – particularly small artisanal and organic bakeries -- trying to limit all of their baked goods to < 0.5 g trans fat and having to replace butter with more processed oils and non-trans fat margarine because of the amount of naturally occurring trans fats in the butter. (Severson 2007) Cutting butter was not the intention of the trans fat ban or the FDA's regulation for providing trans fat nutritional information. Removing butter from traditional bakery recipes may well affect the kind of food establishments – smaller, artisanal bakeries, for example – that might be described as the polar opposites of the fast food and large restaurant chains the ban is more obviously intended to affect. The "butter problem" is an unintended consequence.

The present study is a descriptive and proscriptive analysis; it will investigate the history of the passing of the trans fat ban, and it will investigate the ban's potential outcomes and implications for the public's health. This policy analysis uses a triangulation of methods,

including review of scientific literature, review of public documents and media accounts, and content analysis of key elite stakeholder comments, to determine whether policymakers have general and symbolic, or explicitly outcomes-related goals for policies like trans-fat bans. The hypothesis of this paper is that despite scientific and societal concerns about trans-fat, obesity, and cardiovascular health, this trans-fat ban was inspired more by symbolic, political, and ideological questions, including questions regarding public health and agenda-setting power, than it was driven by scientific evidence and the expectation of changes in the cardiovascular health of targeted populations.

The Biomedical Literature on Trans Fats: Finding Systematic Reviews

To establish the scientific evidence base that might provide a context for pro-ban politcy makers, I conducted a systematic review of the medical literature on the health effects of consuming trans fatty acids, with a particular focus on whether diets high in trans fatty acids portend poor outcomes. I searched *Up-To-Date* and PubMed using the search terms 'trans fat', 'trans fatty acids', and 'trans-fat'. For the Up-To-Date search, all of the search terms came up with articles titled "Dietary Fat," "Lipid Lowering with Diet or Dietary Supplements," "Overview of Sudden Cardiac Death," and "Prudent Diet." I used the table of contents for each article to identify the section relevant to trans fats, and all articles from that section were extracted for further review. For the Pubmed search, the "Clinical Queries" and "Find Systematic Reviews" tabs were used to limit the search to systematic reviews only, and this combination of search terms produced 18 reviews. Criteria for articles to be included in the review were their availability as electronic articles from the University of North Carolina at Chapel Hill; that the articles themselves were reviews or meta-analyses; that the abstract or title discussed trans fats and cardiovascular-related outcomes or intermediate outcomes, and that, on review, the article

was predominately researching the affect of trans fatty acids. These limits mean that the present research is not based on a new systematic review of the literature on trans fats; rather, it relies on reviews already done. This search strategy uncovered two systematic reviews and one meta-analysis, which I then evalutated for comprehensiveness of the literature search strategy, methods to appraise internal validity, assessment of publication bias, assessment of heterogeneity, and the adequacy of statistical analysis. What follows is a summary of the reviews uncovered by the search. After the summary, we turn to the policy analysis.

Mensink, Zock, et al. (2003) conducted a meta-analysis of 60 controlled trials to evaluate the effects of individual fatty acids on the ratio of total to HDL cholesterol and on serum lipoproteins." The authors described their search as using a computer-assisted literature search to find studies published in English between January 1970 and December 1998. Reference lists were scanned and hand searches of journals were also conducted. The authors described several inclusion criteria for studies: (1) food intake must be controlled and described with the only variable being dietary fatty acids and with cholesterol held constant; (2) parallel, crossover, or Latin-square design; (3) feeding periods of at least 13 days to allow new serum levels to reach steady-state; and (4) adult subjects older than 17 years who had no lipid metabolism disturbances or diabetes. Studies were excluded if they focused on very-long-chain polyunsaturated fatty acids such as fish oils of the n-3 type because previous reviews published.

The authors conducted the statistical analysis by assigning each diet in all studies a data point for the fatty acid composition of the diet and the mean serum total:HDL cholesterol at the end of the dietary period of the population eating the diet. All studies consisted of diets in which fatty acids were exchanged for either other fatty acids or for carbohydrates. The authors were unable to conduct multiple regression on articles examining trans fats because of a small sample size of studies addressing trans fats (compared to saturated fats and polyunsaturated fats, which were also examined in the meta-analysis). For these studies, the difference in outcome between diets with trans fats and control diets was adjusted for differences in intakes

of other fatty acids using the multiple regression coefficients determined for the saturated and polyunsaturated arms of the meta-analysis. To ensure that only within-study diet-induced differences in absolute lipid and apolipoprotein were analyzed, the authors corrected for intrinsic conrations , which were the mean estimated serum lipid or apolipotrotein concentration or their ratios that would result if the subjects ate standardized fat-free, high-carbohydrate diets. The article does not discuss adjustments for other cardiovascular risk factors such as blood pressure, and aspirin intake, but since the endpoint measured was the intermediary endpoint of total:HDL cholesterol, there was no reason to adjust for these other risk factors. In addition to adjustment for diet, adjustment for family history may have been useful, as that is a risk factor for lipid abnormalities. The authors checked the validity of their regression models by using Cooks' distances to address outliers and they excluded any diets with Cook's distances > 0.3. They then used the Shapiro-Wilk test to show that excluding these outliers resulted in a normal distribution and less variability. This does not ensure accuracy, however. To address collinearity (correlations between independent variables, which is a source of error in regression statistics), the authors calculated the tolerance for each fatty acid in each model and determined that the tolerance level (≥ 0.22) meant that any relation between independent variables did not skew the coefficients. Visual analysis of plots did not suggest a relationship between residual (differences between observed and predicted values) and predicted values or independent variables. A standard effects model was not used because standard errors were not given by most studies, so variability within studies could not be differentiated from variability between studies. After adjusting the trans fat diet data with the regression coefficients, the effects relative to carbohydrates were calculated per 1% energy and averaged across studies.

Their strategy yielded 8 studies and 18 data points that specifically examined trans monounsaturated fatty acids out of a total of 35 studies, and 91 data points showing the intakes of individual fatty acids. The authors report that not only do 18:1 trans fats not increase HDL relative to carbohydrates, but they also report a coefficient of 0.022 (95% CI: 0.005, 0.038),

meaning that for every 1% of dietary energy replaced isoenergetically with trans monounsaturated fatty acids, total cholesterol:HDL increased by 0.022. Also, they report that isoenergetic replacement of trans 18:1 fats constituting 1% of energy with saturated fatty acids decreases total:HDL cholesterol by 0.019, with cis mono-unsaturated fatty acids by 0.048, and with cis polyunsaturated fatty acids by 0.054. They reported that replacing 10% of energy from a mixed fat average US diet with stick margarine (with trans fats) or butter (saturated fats) would cause a small increase in total cholesterol:HDL. The authors further estimated that replacing trans monounsaturated fatty acids making up 1% of energy with a 1:1:1 mix of carbohydrates, cis monounsaturated fatty acids, and cis polyunsaturated fatty acids is equivalent to replacing saturated fatty acids making up 1.8% of energy with the same mix. If using just carbohydrates, replacing 1% of trans monounsaturated fatty acids is equivalent to replacing 7.3% of saturated fatty acids. According to the authors, the US diet consists of roughly 2.6% of energy from trans monounsaturated fatty acids and 13% from saturated fatty acids, thus the total replacement of trans monounsaturated fatty acids with carbohydrates would have a larger effect on total cholesterol:HDL than the total replacement of saturated fatty acids.

The study evinces many reporting problems. Although the authors did provide some details in the form of restrictions (time and language), they did not report detailed information about what databases and other sources they searched. No discussion of search terms was included, but they did include inclusion/exclusion criteria as discussed earlier. Not reporting one's search strategy does not mean that one did not conduct appropriate searches, but the authors do not provide specifics that would allow us to judge the breadth and depth of the search. Potential biases could occur in the form of publication bias if they only searched one database. The authors did not discuss publication bias, nor did they present a funnel plot to assess publication bias.

In addition, the authors did not discuss other criteria for assessing the quality of the individual studies, who picked them, and whether there were masked conditions for choosing

the studies and in the studies themselves. There is no way to judge the validity of how they picked the articles and whether some deserved more weight in the statistical analysis because they were better quality studies. No forest plots were presented to relative risk ratio, likely because the results are not in health outcomes but in an intermediate measure of risk (total cholesterol:HDL), but the lack of presentation and maybe lack of determining relative weights of the studies to the results makes the data questionable.

Other limitations include the sample size of the number of studies that specifically address trans fatty acids and the use of the regression model from the other arms of the study to make up for that. The regression models come from completely different studies and different populations; the results on diets using other types of fatty acids may not be applicable to the populations in the studies discussing trans fatty acids (and no discussion is given regarding heterogeneity in populations. Some confidence is returned when the authors discussed their statistical methods for making sure the regression models were valid, as discussed above.

The authors admit other limitations to the external validity of the results. All of the data points used were pertaining only to populations with no baseline dyslipidemia, thus populations with cholesterol abnormalities may have different outcomes. However, they discuss that the most likely difference between populations with and without cholesterol abnormalities is that populations with cholesterol abnormalities may be more responsive to changes in fatty acid make up in diet. Long term effects are unknown as well, since the diet trials lasted between 13 and 91 days. The authors suggest that this is likely not a transitory effect because of the preponderance of long-term epidemiological studies suggesting more long term effects of dietary changes that agree with the results of this meta-analysis.

Finally, this meta-analysis does not use a clinical outcome as measurement, the largest problem in terms of assessing the importance of the results. Considerable data show the link between a low ratio of the intermediate outcome of total cholesterol:HDL and good

cardiovascular outcomes, but we cannot be sure that these dietary changes do not affect other aspects of health not reflected in cholesterol or whether these other effects do not contribute to positive or negative outcomes.

Hu and Willet (2002) conducted a systematic review to investigate dietary changes and coronary heart disease (CHD) prevention. The authors searched PubMed through May 2002 for "epidemiologic and clinical investigations" of many dietary factors (fat, cholesterol, omega-3 fatty acids, trans-fatty acids, carbohydrates, glycemic index, fiber, folate, specific foods, and dietary patterns) and CHD. The authors then chose "147 original investigations and reviews of metabolic and epidemiologic studies and dietary intervention trials." The "epidemiologic studies" were cohort studies, geographic and migration studies, and case-control studies. The authors report that they examined data for relevance and quality; one author extracted the data. They did not discuss specific quality criteria, but they report that they emphasized controlled trials with clinical end points and gave considerable weight to large prospective cohort studies that reported disease outcomes and metabolic studies that had established intermediate end points because of the scarcity of clinical trials on the subject. They also considered results that were consistent across studies as the strongest.

The authors summarize many controlled metabolic studies, reporting that trans-fatty acids have been found to raise LDL and lower HDL relative to cis-unsaturated fatty acids, with increases in total cholesterol:HDL nearly twice that for saturated fatty acids. They also report that they increase lipoprotein a plasma levels, triglyceride levels, and may impair endothelial function and promote insulin resistance.

The authors found four large prospective studies that found elevated risk of CHD with higher trans-fatty acid intake and pooled the results. The pooled results showed that the relative risk of CHD associated with a 2% increase in energy from trans-fatty acid intake was 1.25 (95% CI: 1.11, 1.40). Case-control studies on trans-fatty acid intake included in the systematic review had inconsistent results.

The search for articles was systematic, but the authors were not clear on how it was conducted. Authors provided search dates and the types of studies for which they searched, but the search terms were not given nor did the authors include inclusion or exclusion criteria. PubMed was the only database searched. As for assessing the quality of the studies, the authors simply state that the data were examined for relevance and quality and extracted by one author. They did say that they gave more weight to controlled trials, large prospective cohorts, and certain metabolic studies, but they did not describe how they assessed quality other than that. It is impossible to determine the validity of their methods if the methods are not reported. We do not know if they only picked positive studies, for example, and the authors did not discuss publication bias or use funnel plots and forest plots. They do not describe how they pooled the results of the four large prospective positive studies or why they did not include any studies that were not positive in that analysis – we do not know if there were no studies that were not positive or if they simply chose to ignore them. Also, we do not know why they did not try to pool the results from the mixed case-control studies.

In short, this review presents the results of studies that they found using a systematic search and even tries to pool some results, but authors do not report the methodological specifics that allow the reader to determine the validity of their results. They also do not describe the strengths and weaknesses of the studies they describe. This makes the data they present very difficult to analyze.

Odegaard and Pereira (2006) produced a systematic review to assess the literature on the role of trans fatty acids in causing insulin resistance and type two diabetes mellitus (DM2). The authors conducted key word searches in Medline and PubMed and inspected citations in journal articles, reviews, and tangentially related to the topic. They begin by assessing animal studies and present four studies that each showed diabetes and insulin related changes in animal models with trans fatty acid diets compared with diets with cis fatty acids or diets with no trans fatty acids. They did not critically appraise these articles.

The authors then presented four observational studies (one cross-sectional and 3 prospective) and four experimental studies. They included strengths and weaknesses of the studies and presented them with some population data, dietary assessments, outcome measurements, adjustments made to the analysis, and the association/effect seen of trans fatty acids on insulin resistance/insulin levels with p values for any associations. Among the epidemiological studies one showed no association, one a direct association, one an inverse association, and one a direct association in age and energy-adjusted analyses but no association with further adjustment for other risk factors. The authors posited an explanation for the very heterogeneous results by stating that the trans fatty acids in each of these studies may have differed and by discussing the potential to misclassify trans fatty acids due to changes in manufacturing and consumption patterns during the 1980s. Another problem of the studies is miscalculation/misreporting of the amounts of trans fatty acids in foods. These are issues with measurement bias that decrease the validity of the results. Overall strengths included large sample sizes and collection of a wide range of diet and lifestyle information to address potential confounding.

The four human experimental studies had mean population ages of 23, 28, 40, and 55, and they showed heterogeneous effects. The first showed no significant difference in acute insulin response or fasting plasma glucose between a diet with trans fatty acids and a diet with monounsaturated fatty acids. The second showed no effects on insulin levels or action in diets comparing trans fatty acids, saturated fatty acids, and monounsaturated fatty acids. The limitation for both of these first two studies was the use of young healthy adults. The third showed a statistically significant difference in postprandial hyperinsulinemia between diets with trans fatty acids, saturated fatty acids, and monounsaturated fatty acids. The high amount of trans fatty acids in this study limits generalizability. The fourth study showed a possible acute insulin resistance and postprandial hyperinsulinemia between diets with high trans fatty acids and diets with high cis fatty acids in a population of moderately overweight adults, suggesting

that trans fatty acids may acutely exacerbate insulin resistance. All four of the studies were limited by small sample size ranging from 14 to 25.

The authors summarize that the results of the few clinical studies available are largely equivocal, but that trans fatty acids seem to worsen diabetic biomarkers in higher risk individuals. They also report possible limitations and definite inconsistencies in the study designs and methods of the studies. These results are not definitive.

This review suffers from many of the limitations of the other two studies. The databases searched and other sources of articles are presented, but search terms, limits, inclusion criteria, and exclusion criteria are not given. The authors discuss that there is little literature available discussing trans fatty acids and DM2 related measures, and this scarcity of literature probably made inclusion and exclusion criteria irrelevant because the search uncovered all literature available. The authors, however, never say this directly, so it is difficult to know, and authors do not discuss the possibility of publication bias. Authors offer no formal criteria for appraising the studies, though the authors do discuss limitations and strengths of the articles. This review details the very beginning of research on the topic of trans fatty acids and DM2 and so the results are inconclusive and do more to direct future research than to resolve the questions about the relationship. The endpoints were intermediate and therefore limit the validity of the results.

Gillman (2007) reported in *UpToDate* specifically on trans-fat in an article titled "Dietary Fat." It reports the results of an outpatient feeding study showing that a stick margarine diet which is highest in trans fatty acids resulted in a total:HDL ratio 4% higher than a high saturated fat diet. It also showed that the best lipid profiles were obtained with soybean and liquid margarine diets which both had small amounts of saturated fats and trans-fats. In another study presented by UpToDate, each increase of 2% of energy from trans fat resulted in a relative risk for incident coronary heart disease of 1.93 (95% CI 1.43, 2.61).

From PubMed to Public Policy

The three articles discussed in the foregoing pages attempt to illuminate the relationship between the consumption of trans fatty acids and health outcomes. Despite the methodological problems and the potential for biases, such as publication bias, to inflate the apparent strength of the relationship between trans fatty acids and adverse health outcomes, the results do seem to suggest a real relationship, even if the exact magnitude of the relationship is unclear. The *UpToDate* summary seems to confirm the findings from the referred journal literature, and reprises evidence for the harm of trans fats.

Still, the data supporting an adverse link between trans fat consumption and adverse health outcomes – particularly for cardiovascular health -- are not conclusive. Despite this, the New York City Board of Health unanimously passed a controversial ban with revolutionary implications. We should expect this. As Deborah Stone (2002) notes, the "rational ideal" in policymaking "presupposes the existence of neutral facts – neutral in the sense that they only describe the world, but do not serve anybody's interest, promote any value judgments, or exert persuasive force...Yet facts do not exist independent of interpretive lenses" (309). One of Stone's examples is the "mushiness" of findings from randomized controlled trials, and physicians' reluctance to replace clinical judgment with RCT data (312),

Such a reminder of the absence of something like pure "neutrality" of facts is especially apt here. Were Board members relying on their own interpretation of the evidence? Did they conclude that, strength of evidence aside, removing trans fats from New Yorkers' diets was simply a public health good worth pursuing? Did they hope to fire the first shots in a national war against trans fats, following New York's past history of policy precedent-setting? Kingdon (1995) argues that no single force drives a policy issue to prominence on the public agenda;

rather, he says, a "complex *combination* of factors is generally responsible" (p.76; emphasis in original). The remainder of this analysis will elucidate that complex combination.

The primary hypothesis guiding the present research is that symbolic politics trumped scientific evidence in the course of legitimating a ban the measurable public health outcomes of which would not be straightforward to measure. Testing the hypothesis requires establishing the strength and substance of the scientific evidence base, accomplished in the systematic review just discussed, and two additional kinds of research: careful review of government documents and media coverage, and qualitative analysis of the results of structured interviews with key policy actors and observers. The next section describes the findings from document review and, most critical, from interviews with those who crafted the policy, or closely observed its passage.

The Perspectives of Policy Actors and Observers

The conclusions we may extract from the systematic review described above is that the negative effects of trans fats on health are most likely real. Debate about whether trans fats are deleterious to health did not arise in the discussion about adoption of the trans fat ban. Neither side made an apparent overt attempt to question the data presented to the Board of Health and the public by the staff at the Department of Mental Health and Hygiene. Given that we can establish a relatively robust consensus on the part of policy makers that trans fats are a "public bad," to be redressed by the "public good" of a ban on their addition to restaurant food, what other dynamics influenced the development and passage of the ban? As I have noted, the answers to such questions require a careful perusal of the policy itself, major print media discussions of it, and analysis of the insights produced by structured interviews with key actors and observers,

Elite interviewing

I conducted three telephone interviews and one correspondence interview via e-mail with individuals who were well placed to understand the dynamics of passing the ban, and the likely challenges of implementing it. Respondents included two members of the New York City Board of Health, one representative of the restaurant industry, and one observer with expertise in the area of trans fat and obesity public health. I asked the following questions in the order in which they are presented below, with one exception. In one interview, the course of the conversation dictated asking one question earlier than it had been asked in the other interviews. The questions are meant to elicit a coherent narrative about the trans fat ban from each respondent, in the hope that separate narratives would share common elements and yet add different dimensions to an understanding of the processes leading up to, and following, the ban.

I then transcribed the interviews, which ranged in length from 26 to 73 minutes, and analyzed them for similarities and differences of perspectives and descriptions of key actors and actions. The information in the interviews made up the data points of the analysis. In addition, I conducted one informal interview with a second expert observer (herafter known as the "informal observer," to distinguish him from the expert observer with whom I conducted a formal structured interview). The questions guiding the structured interviews with elites are presented in the Appendix, below.

Hochschild,(2005) in a Memo prepared for the National Science Foundation, notes that, for research purposes, an "elite" is not necessarily someone of high social or economic standing but, instead, is a "person who is chosen by name or position for a particular reason": (1). "A central purpose of elite interviews," Hochshild continues, is to "...acquire information and context that only that person can provide about some event or process...How does the person understand and explain the trajectory of the event or process?" (1). Hochschild notes that many standards for scientific rigor in qualitative interviews are identical to those for survey research, including the appropriateness of obtaining respondents randomly, the appropriateness of

presenting the same neutral persona (in the form of the disposition of the interviewer) to the respondent, so that the respondent is "engaging with the issues at hand" , the need for questions that are not biased, leading, or otherwise likely to distort respondents' views, and the need for a systematic and replicable way of making sense of the data after the interviews are completed, among other considerations.

To every extent possible, this research has been conducted following the principles of scientific rigor elucidated by Hochschild. Randomness of selection of respondents is problematic in this case, of course, as the intent is to obtain the perspectives of elite actors in a unique position to comment on the policy. Within that small universe of respondents, however, I sought merely to talk to any available Board of Health Commissioners, for example, rather than focusing on particular members. My advisor trained me in interviewing techniques to assure that I maintained a consistently neutral persona in the interviews. We drafted, criticized, and re-drafted the structured interview questions to assure that they would elicit respondents' views without biasing or leading them (see Appendix for the interview protocols), and I produced full transcripts of each interview – including recording verbal pauses and hesitations, as recommended by Hochschild and others, to enable a transparent and replicable analysis of responses.

In order to analyze the motivations behind and context around the passing of the New York City ban on trans fats in restaurants, I compared the transcripts of each interview, looking for differences and commonalities among them. I interviewed the informal observer in order to enrich my understanding of the context of the ban, and his insights contributed to the framing of the hypothesis and the interview questions.

I synthesized the interview transcripts, public documents from the New York City Department of Mental Health and Hygiene (New York City Department of Health and Mental Hygiene Press Release and New York City Department of Health and Mental Hygiene Notice of Adoption of an Amendment to Article 81 of the New York City Health Code), and two current

policy articles on obesity (recommended by the informal observer as well as by Dr. Jon Oberlander) (Kersh and Morone 2002 and 2005) to derive an analysis of the events surrounded the implementation of the ban.

The interpretation of evidence that trans fats are harmful, and the appropriateness of trans fat as a target for regulation

Both Board of Health members I interviewed agreed that the evidence against trans fats was substantial. One member said, "I think there is a fair amount of...uh...literature on the effects of trans fat and its nutritional impact as opposed to traditional fats..." The other Board of Health member said that the documents the Board considered included "both basic science and clinical studies on the effects of trans fat on cholesterol metabolism," and declared that the "Department of Health and Mental Hygiene...um...really made a very clear case why they were proposing a ban...;" that Member went on to emphasize that trans fat "raises bad cholesterol and lowers good cholesterol," the principal finding in the literature.

The expert observer said of the evidence of trans fat's harmful effects, "Initially the debate was within the scientific community, with most believing that trans fats could not be bad. However, the evidence became so overwhelming that there is now little disagreement that trans fats are harmful."

Clearly, although the quality of evidence in the scientific literature may not be as large or as unambiguous as evidence-based policy making might prefer, these policy actors were prepared to accept a more or less unequivocal conclusion from the evidence. The conclusion is inflected by a political climate that has long assumed that fats are villains in the American diet; policy actors would not take much persuading that trans fats are especially problematic.

Although the restaurant industry representative did not directly agree that the evidence against trans fat was damning, he said, "I'm not a scientist...I couldn't necessarily...uh...argue the...uh...science part of it." He also used the same mantra of increasing "bad cholesterol" and

decreasing "good cholesterol," though he was careful to state that the several scientific studies that the Department of Health and Mental Hygiene and the Board of Health cited amounted to a "claim to have a scientific background."

Two out of the four interview respondents mentioned the period of voluntary removal of trans fats from restaurants let by the Department of Health and Mental Hygiene, and this represents the first level of disagreement. The Board of Health member who discussed the voluntary removal project reported that despite what this member described as "a massive educational campaign" with an incorporated "trans fat module into all the food service training they do with restaurant workers...a year later after expending quite a lot of effort on a voluntary educational campaign, there was no change at all in the prevalence of trans fat use in restaurants in New York City." For this member, the failure of the voluntary program became a key motivation for a legislated ban.

The restaurant industry representative also discussed the voluntary ban, but disagreed with the outcome presented to the Board of Health. He said that in a "very quick and very short" survey in which he "didn't get a tremendous response from members [restaurants]," of those who did reply ("about 80 restaurants"), "easily 75% of them indicated they had already voluntarily...uh...made the switch either after our request or in some cases even prior to that." The restaurant industry representative argued that the trade association's urging of restaurants voluntarily to remove trans fats "confirms the fact that we didn't question the...uh...the...the scientific portion of it" and agreed with the direction that the FDA took.

Trans fat ban vs. menu-labeling of trans fats in the restaurants

Despite disagreement over whether the voluntary trial was an effective strategy to reduce trans fat in restaurants, the Board of Health seemed to take something else from the trial. One of the Board of Health members said of the restaurant response to the voluntary ban that the "information about what was in their...um...you know...food ingredients wasn't even

immediately available to the restaurant owners" and "it would really be burdensome for them to try to figure out how much trans fat is in an individual portion of a given recipe prepared on a particular day because of the way...um...you know...the way that they cook...because of the way...they cook, a little more oil or a little less oil..." For the Board of Health, making a regulatory ban on trans fat would actually be easier for restaurants than would enacting an FDA-style labeling requirement; simply removing the trans fat would be simpler for many restaurants than would figuring out how much was in any given meal. The Department of Health and Mental Hygiene compiled a list of banned oils and spreads. For this Board of Health member, the simplicity of a ban was the primary motivation to support it, rather than a labeling requirement.

Despite a widespread willingness to agree that trans fats are harmful to health, the two sides persisted in a fundamental disconnect over how to handle the issue. According to the restaurant representative, while a labeling law would be "fine," "We just felt that it's not the place of the government to necessarily ban a legal substance," whereas one of the Board of Health members felt it was akin to "removing lead from paint" and because "it is artificially injected into the food supply during processing," it is "an appropriate target for an intervention." This context of the appropriateness or not of government regulation, not surprisingly, became the leitmotif of the New York City trans fat ban, and interpretations of the scientific evidence were merely justifications for the appropriateness of government action to prevent harm. As I will discuss, several factors came together to limit the depth and breadth of the debate.

Can the restaurants make the change?

Aside from fundamental questions about how to enact industry changes to benefit the public health, the proposed policy invoked practical matters as well. Three out of four interview respondents commented on the ability of the restaurants to make the required changes to their stocks of oils and spreads. According to the restaurant industry representative, the Board of

Health "gave no credence whatsoever to the fact that this might create a...uh...a shortage in...in available product driving up the prices, and particularly negatively affecting small restaurants who (a) didn't get the word or (b) if they did get the word...uh...they couldn't compete with the prices that were being paid by the large chain restaurants." The industry spokesperson went on to discuss far-reaching implications of the ban, including speculating about the effects on growers of having to change to a different type of soy plant species in order to decrease trans fat in oils. According to the restaurant representative, because the growers can still sell the other soy beans for biofuel, they are less likely to switch species, decreasing the no-trans fat product on the market and driving prices up. The restaurant industry representative also mentioned, as an example, a company that had had to insert seven other ingredients to replace a single ingredient containing trans fats in order to retain the taste and texture of the original product.

On the other hand, two members of the Board of Health argued the contrary. About restaurants that had removed trans fats, one Board of Health member said, "almost every restaurant that had done it said that it was either cost neutral or very slight increase in cost, and that was sort of one of the big objections raised by a lot of the restaurant industry...organizations, but it turns out if you actually do it, it didn't actually cost more." The other Board of Health member I interviewed lent very little credence to any restaurant complaints about difficulty in making changes to conform to the trans fat regulation. "For a whole variety of other reasons," the member said, "the reliance of the food industries on trans fat products was probably on its way down...ever since the IOM report, and all we were doing was possibly accelerating or claiming some credit for a trend that was going to be happening anyway."

The expert observer raised another example that the Board of Health had drawn upon. "It was helpful [to the pro-ban argument] that the whole country of Denmark had gone trans free for several years, and there was no increase in price, and if anything saturated fat intake went

down," the expert observer said. To the Board of Health, any restaurant industry complaints were dwarfed by factors that led them to adopt the trans fat ban.

A failure to broaden the scope of conflict: weak opposition from the restaurants

In Schattschneider's (1960) classic formulation, only losers attempt to broaden the scope of conflict. The restaurant industry was losing the policy argument from an early point. If an industry representative voiced this concern in telephone interviews, why did the industry not attempt to broaden the scope of conflict by broadening the range of counterarguments brought to the Board? The restaurant industry does not automatically appear to be one of the politically disadvantaged groups who generally fare poorly in attempts to influence agenda-building (Cobb and Elder 1983), but in this instance, as evidence below suggests, the fear of demonization may have made the industry a more vulnerable interest than general models of rational policy making would assume. The trans fat ban may also join a group of similar policies, many of them presented in public health terms, such as making accessibility cuts in street curbs, adding folic acid to bread, or adding iodine in salt, among others over which no real dispute over the benefit (as opposed to the cost) arises (Brintnall, personal communication, 2007). In such policy contexts, otherwise apparently advantaged interests may find the game of mounting an opposition not worth trying to win.

All four interview respondents commented on this weak opposition, and three out of four, the two Board of Health members and the expert observer, felt that there was little organized effort to argue against the trans fat ban. The expert observer said, "There was not a strong opposition, mainly just a few crazy people who don't think the government has any role in protecting the population from harm...The NYC ban was opposed by parts (not all) of the restaurant community, but other parts were strongly supportive and had been avoiding trans fats already. This was very helpful."

One Board of Health member said, "opposition on the part of the restaurant industry was hardly monolithic...and a lot of the opposition or the expressed opposition from the restaurant industries appeared to be more perfunctory...The board of health has been lobbied much more intensively about issues having to do with the interests of pet owners or some other sort of public health issues than was the case here." This Board of Health member also said, "Part of the irony of this whole thing is sort of the more prestigious, in some ways often the more visible folks from the restaurant industry, the more likely they were to be supportive. Some of the restaurant groups tried to make an effort to turn it into a class issue, arguing that, you know, it wouldn't affect some of the high end white table cloth places very much but the sort of minority-owned businesses would be hit disproportionately...but somehow they were never able to make that case particularly effectively to the media or to any of the other kind of audiences, let alone the Board...There was one group of the Hispanic restaurant owners or whatever that was sort of the most visible and vocal of the restaurant industry groups, but they weren't monolithic by any means themselves, and there was no political, there was no visible sort of political opposition in the sense of an elected officials or anyone who was who was perceptibly against the proposal."

The other Board of Health member had a similar observation: "There were vigorous objections from the restaurant industry, but the counterpoint to that were the restaurant owners and, you know, again, some of these were people who had chains of restaurants throughout the city who sort of stood up and said, '...the department of health came to us...We decided to do it...It wasn't really as hard as we thought it would be, and it didn't cost more money.' In the face of that from individuals in the restaurant industry, then, I think, the protests of the organized restaurant industry – we just weren't as receptive to them." As for the civil liberties objections, this Board of Health member said that the Board of Health, made up primarily of medical and public health professionals, is not "particularly sympathetic to the idea that individual freedoms absolutely trump all other public interests."

The restaurant industry representative had a different view. "We had considerable amount of discussion prior to the hearing, and we've had considerable amount of discussion afterwards." About the opportunity to speak at the public hearing, the industry representative said, "...there wasn't really a debate. We were offered an opportunity to, they were required by law to have a public hearing, which they did. And...the audience, the participants, you know...it was set up." The representative called it a "kangaroo court," saying that the Board flew specific speakers in on behalf of the ban while the organization of restaurants was only "allowed five minutes to make our presentations...There were some individual restaurant owners who signed up to testify, but...uh...the...the list was so long of people that the health department had recruited that many of them had to leave because of the time constraints...before they were given an opportunity to speak...we certainly made every effort...we retained a counsel. We retained...several [public relations] companies and a lobbyist...to try to defeat this, and we weren't successful."

According to both members of the Board, however, the Board of Health listened to many of the objections and made adjustments to the formulation of the ban. This was particularly evident in the timing of implementation of different parts of the ban. "I think the other thing I sort of focused on a bit and that actually there was some evolution in the proposal from the original...was the question of the mechanics of phase and...and the amount of time people would have to adjust to it...the special treatment of certain categories of baked goods because of the absence there of...um...readily available alternatives" said one member. The member said that the Board "actually wound up changing the implementation schedule...tripling the implementation time for baked goods and so on because to give restaurants time to make those adjustments." In a press release prepared by the Department of Health and Mental Hygiene (New York City Department of Health and Mental Hygiene Press Release), the Department detailed revisions to the Trans Fat Proposal, including "more time (18 months instead of 6) to replace artificial trans fat used in baking and in deep-frying yeast doughs and cake

batters...technical support for restaurants and bakeries...3 month grace period...with no fines for items in the six month phase-out category" and for "items in the 18 month phase-out category...separate category of violations which will be posted and the web but will not determine pass/fail of routine sanitary inspections."

Of the objection that there will be supply limitations, the other Board of Health member said, "The Department of Health took those on...you know...They actually surveyed distributors/suppliers, calculated how much was available, how much it would take to replace it...Yeah, they sort of countered the protests with facts and with the experience of restaurateurs who had actually made the change. And I think that was persuasive..."

The amount of opposition overall is reportedly less than is the level of support. According to the Notice of Adoption of an Amendment to the New York City Health Code (New York City Department of Health and Mental Hygiene Notice of Adoption of an Amendment to Article 81 of the New York City Health Code), "approximately 2,200 written and oral comments were received in support of the proposal and 70 comments in opposition to the proposal." (p. 1) It appears that the Board of Health felt politically protected by a significantly strong coalition in support of the ban, from the vigorous support of Mayor Bloomberg to many in the restaurant industry itself.

Public awareness of trans fats, the demonization issue

Kersh and Morone (2002) outline several steps to government action in their analysis of the politics of obesity: they note several criteria, both social and political, that have traditionally played a role in priming debates to take pro-regulatory direction. Two criteria include facets of "demonization" -- of the user and of the iindustry. According to Kersh and Morone, "Demonizing users – especially poor people and minority groups who drink, take drugs, or harbor sexually transmitted diseases – has been one of the most powerful spurs to government action in U.S. history. There is nothing quite like the fear of sinister others to overcome the stalemate of

American policy making." (p. 145) Has this become a factor in the obesity debate and, by proxy, the trans fat debate as well? Kersh and Morone argue that although prejudice against overweight Americans has persisted for more than a century, the prejudice has not been transformed into the demonization that typically incites government action to ban behaviors, possibly because overweight people are not portrayed as dangerous to society, and possibly because the majority of Americans are overweight.

But what about the demonization of the industry? Up from 25% in 1955, the massive restaurant industry now makes up 47.5% of every food dollar with roughly 40% of adults eating out every day (Brownell and Willet 2006) In a second Kersh and Morone study (2005), the authors argue that

> When policy makers trace the problem partially to the industry (or, less pointedly, the 'food environment') rather than obese people themselves, an entirely different set of solutions comes into view. These include more detailed food labels, controlling the advertising directed at children, rethinking school nutrition, regulating the fat content of foods, imposing higher taxes on unhealthy ingredients, punishing false or misleading nutritional claims, and subsidizing healthy alternatives. (p. 849)

We have seen such industry demonization in the case of tobacco: tobacco companies have long been portrayed as evil, profit-seeking, and without concern for the harm their products, which they actively advertised, do to smokers and to the people around smokers. Tobacco industry demonization has resulted in heavy fines against the tobacco industry, which, by design, then raise the price of cigarettes. Kersh and Morone (2002) contend that such industry demonization has hit food service, directed against fast foods, junk foods, and soft drinks. Books like *Fast Food Nat*ion by Eric Schlosser are part of a popular and scientific literature condemning these products and the companies who make and sell them. This begins to shift obesity from private to public, from personal to political, and creates a policy environment conducive to actions like the New York City trans fat ban.

About public opinion of trans fats, one Board of Health member said, "I think that 95% of the people have no idea." The industry representative felt that "the public didn't necessarily

have a negative view." These perceptions seem to argue against a demonization theory as a social and political impetus to pass the ban because extensive public awareness and a strong negative public opinion – or at least the perception that such opinion might be at least latent -- would be necessarily to enact a change. The expert observer points to a public education campaign about trans fats emerging from the scientific community and using mainly women's magazines as its vehicle of dissemination, as well as the visibility afforded by the FDA labeling regulations. Both phenomena would serve to convert latency into active negative public opinion, if not before the ban, then afterwards, reducing the likelihood of any subsequent public resistance to it. Surely, in any case, attention to obesity in recent years likely played to the advantage of pro-ban forces in the Mayor's Office and on the Board of Health. One Board of Health member said, "I mean, no one wanted to defend trans fats."

The other Board of Health member said the restaurant industry "will take on so much ill will if they try to defend not doing [the trans fat ban]." When asked about whether public support would make it difficult to argue against the ban because of negative press, the industry representative said, "I don't think so, no...we made it clear in every interview that I did." None of the respondents expressly felt that demonization made a significant contribution to their debating and voting, but it seems reasonable to suggest that demonization – or imminent demonization – created a political environment more favorable to pro-ban than to anti-ban forces.

The political environment and the smoking ban

The social and political environment play a large role in the success or failure of regulatory initiatives, particularly when considering regulation which pits individual rights against the common good. According to one Board of Health member, arguments advocating personal rights against the common good "don't always resonate so well in New York..." As Kingdon (1995) argues, policy windows do not open often, and do not stay open long. The feasibility of

getting an issue on the public agenda varies with time and circumstances. Sometimes these circumstances are created by the success of an earlier, similar policy. Three out of four elite respondents felt that earlier bans set the stage for the trans fat ban in New York City. As previously discussed, the expert observer felt the success of the Denmark trans fat ban was part of the reason that the New York City trans fat ban was "timely." One Board of Health member said that an important factor was the "enormous success and popularity of the anti-smoking initiatives several years ago, so...um...that sort of changed I think the tone of that part of the debate...I'm not sure...they wouldn't have been able to succeed with the trans fat ban without context of the anti-smoking stuff, but I think that context helped enormously."

The second Board of Health member also spoke about the importance of the smoking ban experience for setting the stage to pass the trans fat ban in New York City. "I think again the experience of dire predictions of economic doom that restaurants and bars would close if people couldn't smoke...uh...they wouldn't come, had not only not come to pass, but apparently use of bars and restaurants is up since the smoking ban...I think...uh...people were a little more skeptical to accept predictions of doom and...you know...economic demise if you interfered with...um...uh...a food industry in this way." The perceived success of earlier bans, in New York and elsewhere, had a direct influence on proponents' willingness to propose and then support the New York City trans fat ban. The industry representative, however, attributed more of the success of the ban to New York's political leadership – especially the leadership of the Mayor and his Health Commissioner (who, unfortunately, was unavailable for interviewing while this research was underway).

Major players

When asked who the major actors were in the debate, three out of four respondents mentioned Thomas R. Frieden, the Health Commissioner, and Michael R. Bloomberg, the Mayor of New York City. One Board of Health member stated, "This is clearly an initiative of Dr.

Frieden's." The other said, "...on the pro side, it was clearly...the health commissioner, Tom Frieden." The industry representative also said, "*the* major player was...Dr. Thomas Frieden."

All three of these respondents also put Mayor Bloomberg squarely in the category of major actor. "I think that while the mayor wasn't himself personally very visible on this issue, I think for everybody participating in the process...uh...had a sense that he was...you know...this was something that Frieden was out doing but with the mayor clearly behind him," and the other said, "I do credit Bloomberg with allowing the Health Commissioner to pursue an initiative that was likely to be unpopular in many quarters for which the mayor would take the heat." The industry representative said, "Obviously, the mayor of New York, Michael Bloomberg affirms anything that he [Dr. Frieden] does, so he'd have to be considered a major player."

While all three agreed that both the Health Commissioner and the Mayor were major figures in the eventual adoption of the New York City trans fat ban, they predictably did not agree on the value of Mayor Bloomberg and Health Commissioner Frieden's approach to public health legislation. The Board of Health members, given their own positions, Bloomberg's and Frieden's leadership styles as positive, while the industry representative, on the losing side of the debate, understandably found fault in their leadership. One Board of Health member said, "I think that his [Dr. Frieden's] entire approach to running the Department of Health has really been to energize and empower the staff to identify ways that the department can improve the health of New Yorkers, and so there've been a whole series of programs that are quite a departure from what the health department used to do...The Mayor has chosen Frieden as his expert on public health...and so when it's a health issue, he asks Frieden, 'What should we do?', and then Bloomberg says, 'Do it.' And he does it without doing a Gallup Poll...Bloomberg, when he came in, really appointed some of the best...best health people we had seen in decades in the city. And so he got people who were knowledgeable and committed and innovative. And then, he actually let them do their jobs."

The industry representative took a much more critical stance: "One thing you gotta understand is that this health commissioner that we have has been very, very oriented towards making a name for himself nationally. In fact, there are many people that feel his goal is to become surgeon general (laughing). And Mayor Bloomberg, the city's executive, is a gentleman who became very, very rich [Bloomberg is the billionaire founder of the Bloomberg financial communications empire] from the corporate structure that he set up in his company, and he is using the same principles to govern the city as...that he used to run his business, which is to empower people and back them up, and so that at this point, and it's been well illustrated by the smoking ban and several other things including the trans fat ban that...he backs up his health commissioner, and...his other commissioners, and sometimes in cases where they're even proven to be wrong...He's backed up this health commissioner with an inspection, a food safety inspection that is a hardly even masked effort at trying to get as much money as he can out of the restaurants.."

From this we can conclude that proponents and opponents alike credit Mayor Bloomberg's and Health Commissioner Frieden's relationship and leadership style with much of the success in the passing of the New York City trans fat ban. Dr. Frieden was quoted by Susan Okie (2007), "The sweet spot of public health is when you do something that makes the default setting a healthy choice." Bloomberg and Frieden have even teamed up to be coauthors of an article in a scholarly journal about preventing deaths from tobacco (Frieden and Bloomberg 2007). The fact that a mayor and a health commissioner would co-author a scholarly article speaks to the place of public health on the Mayor's agenda; such writing is more commonly seen in presidential elections, as, for example, when major party candidates are given space in the pages of JAMA to explain their health insurance platforms. Bloomberg's apparently genuine and continuing interest in questions of improving public health by improving health status and reducing the sources of chronic disease may possibly indicate an evolving model of public health reform.

Evolution of public health

The passing of the trans fat ban and the smoking ban in New York City represent the latest developments in a gradual change in public health. One respondent discussed this. "It's been interesting for me to watch over the course of my career sort of the evolution of public health agencies from being primarily concerned with acute infectious and communicable diseases to really starting to focus on chronic diseases because, of course, those are the diseases that kill people now...When the real threats to health are chronic diseases, what is the role of a public health agency in...promoting health?...It's just a question of what becomes acceptable."

None of the respondents mentioned any externalities of trans fat consumption. I did not directly ask about externalities, but two of the four respondents spoke about trans fats as if they had only internal repercussions. One Board of Health member said of banning trans fat, "It's one thing to sort of infringe upon your freedom to protect the health of others, but...um...should you really be restricted from things when you are the only one who suffers the adverse consequences?...If they had come with a proposal that they wanted to ban not just trans fat but they had a long list of ...various naturally occurring substances, I think that would have given us a lot of pause." The industry representative contended that "When somebody ingests trans fats, the only person that that affects is that person."

This point of view differs from that of the smoking ban debate, where the effects of second hand smoke were well known. What the industry representative and others may be willing to overlook is the externalities produced by individual health choices that lead to increased health care costs, whether in the form of higher employer-based insurance rates or in public Medicare and Medicaid expenditures. Yet, despite the possibility of an individualist argument, the trans fat ban was still added to the growing list of public health regulations enacted by New York City, in the apparent belief that the common good, in these instances,

outweighs individual choice. If previous changes in public health can make the trans fat ban more possible, it is reasonable to wonder about the legacy of this New York City trans fat ban for future public health initiatives.

Dissemination: all politics is local?

New York City's size and influence makes it an important shaper of United States policy, business, and culture. That the trans fat ban will have far reaching effects is very likely; we already find evidence of the effects in national discussions that make reference to the New York ban. Three out of four respondents, who are, after all, New Yorkers, agreed with the proposition that New York City exerts considerable influence in the rest of the world. One Board of Health member said, "We New Yorkers are very conscious of sort of the visibility...and particularly in the food industry." The other said, "New York is sort of used to leading the way, particularly in terms of public health...so I do think there is this...um...sort of tradition of leading the way." The industry representative called New York City the "The Big Domino."

Did the ban's potential as a national agenda-setter play a part in the Board of Health's support? Three out of four respondents did not think so. The industry representative and the expert observer, neither of whom were in the room when the vote was taken, thought that it did not directly affected the Board of Health's thinking. One Board member said, "I don't think there was an effort to be first yet again...I don't think that [setting the model for other locations] was a big part of the thinking." This Board member added, "There was, I think, a belief that we were doing the right thing and the hope that other...um...localities would do the same thing...But I think we really focus on what is best for New York City."

Surely, the Board of Health was aware of its position as a national leader in public health reform, but we cannot be certain that national influence would have directed a vote that the Board members otherwise did not feel was right for the city. We have no evidence to suggest that the primary motivation was anything other than a belief that the ban was good for the health

of New Yorkers, although the ability to start a policy diffusion, from New York to the rest of the country, would certainly be seen as a desirable byproduct of local action.

Measuring the outcomes of policies meant to change outcomes?

Are measurable data on policy effects necessary to demonstrate the benefits of a public health initiative? Perhaps not as often as some observers of the policy process might think. In many policy environments, the measurement of benefit is impossible, because of the inability to operationalize and control measurement, irrelevant, because the policy is motivated by a common belief of the inherent benefit in "doing the right thing," undesirable, because evaluation may point to policy failure, or all three of these things (Brintnall, 2007, personal communication).. The impossibility and irrelevance of measurement are illustrated by the assessment of one of the Board of Health members, who said, "I believe the estimates were something [like] 500 fewer deaths per year in New York City if we totally banned trans fats...but whether it's 500 or 50, I do think that it will save lives...and I think it will do it in a relatively easy, painless way." Proving the benefit of one action designed to improve the cardiovascular health of a population (here, banning trans fat) is difficult amidst the myriad of other factors affecting the cardiovascular health of a population.

In fact, three out of four respondents did not see a way to measure the effects of the ban in the future. According to one Board of Health member, "All you can really measure accurately is compliance...what happens to trans fat in food served in restaurants...These chronic diseases are multifactorial conditions." The other member of the Board of Health said, "You're never going to have a definitive impact measurement of this again just because of the...uh...you know...it is one of a very large number of variables affecting the cardiovascular health of the population." While the industry representative also thought there was no way to measure the effects of the ban, the expert observer offered a potential way to measure. "It will be useful to track blood levels of trans fats. The national toxicology surveillance program being run by the

CDC will be doing this nationally." Even analysis of the CDC data, of course, does not permit direct assessment of causation – or simple direct association -- between the banning of trans fats and improved cardiovascular health.

But, in this case, measurement may not matter. Although the projected benefit of banning trans fat in New York City was important in the Board's decision to pass the ban, the Board did not require specific or definitive measures of the benefit of the ban as a part of its implementation. Without being able to know the benefit in some rigorously quantifiable way, the impetus to pass the ban can only come from extreme confidence in the science providing the projections, and from the choice to support the ban because it seems, on its face, to be the right thing to do.

An executive branch initiative with "legislative branch" support

The social and political climate provided the impetus for the ban to be proposed and passed. The adoption of the ban was not a legislative initiative (at first), but one that came from the executive branch of the New York City government. As Kersh and Morone (2005) point out that in obesity politics, "change – especially at the national level – has been either halting or nonexistent," (p. 850)and the legislative branches have failed to pass many initiatives. Like the legislative branch, the federal executive branch often meets roadblocks because of its institutional framework. According to Kersh and Morone, state policy makers have been able to fill some holes, but the judiciary branch may be the easiest road to public health changes. New York City governance can be thought of as a microcosm of the national system, with a strong Mayor heading the equivalent to an executive branch and a lively, and powerful, City Council as the legislative branch. One missing element in this case is that of the judiciary. The New York City trans fat ban was not, as similar policies often are, the culmination of public interest lawsuit settlements. That the executive branch Department of Health and Mental Hygiene imposed the ban was not without problems. The industry representative said, "We

were considering legal means to overturn it because it wasn't done by an elected agency." One Board of Health member said that they had "been made aware that there might be legal challenges to this action." According to the industry representative, the legal argument was diminished by a law approved by the City Council which "affirmed the Board of Health action, and the Mayor signed it."

New York is less reflective of national politics in its political climate, however. As these pages make clear, New Yorkers are not reluctant to embrace activist government; even a Republican Mayor (who, at the time of this writing, has just left the Republican Party and declared he will be an Independent) is an unabashed advocate of activist government. The momentum with which this initiative went through they New York City political system is impressive, and it happened so quickly that it may even have remained beneath the public's radar. The ban on trans fats was only a part of what was a broader amendment of the health code.

Role of the calorie labeling

According to the informal observer, many experts think that another aspect of the health code amendment may have even more important effects than will the trans fat ban. That part of the amendment is the caloric labeling requirement. As discussed in the introduction, this labeling requirement mandates that restaurants who were providing caloric information in some form by March 3, 2007 must publish that information near the counter of the establishment. Because of the stipulation that it pertains to restaurants who were already providing caloric information, this part of the law primarily affects restaurants in the fast food industry.

National attention to the trans fat ban dwarfed recognition of the significance of the calorie publishing requirement. Three out of four respondents interviewed for this research recognized how little attention the calorie publishing mandate received. One Board of Health member postulated that it would "affect about 10% of the restaurants in New York City, so

maybe that's why there wasn't as large an outcry." The industry representative said, "It slipped under the radar as far as the overall restaurant industry was concerned, although we were, as an organization, concerned, as were the various quick service chains that would...be the ones that were affected. A lot of restaurateurs looked at it and said, 'Well that doesn't bother me, so I'm not that concerned about it.'" The expert observer thought that it might have received less attention because there may have been "no good reason to argue against it."

Yet, those who were concerned about the requirement argued that it would be a disincentive to start providing calorie information, if restaurants were not already doing so in March 2007. Three of the respondents agreed that the policy might have such a disincentive effect. The industry representative questioned "how they could possibly provide calorie information for every one of those items up there and have it make a difference." One Board of Health member said that the law might cause "those that had been [posting nutritional information] to stop doing it so they would not have to comply with the law." The other Board of Health member said about the potential disincentive caused by the law, "There's no question about that" and that the Board's feelings "were sort of split about it."

However, both Board of Health members agreed that they thought that this would not affect most of the restaurants targeted by the legislation. For one Board member, bad publicity if they stopped posting caloric information and "liability pressures that...um...uh...prompted them to start this public disclosure" were reasons for restaurants to continue to disclose calorie information. The other Board of Health member cited "other pressures particularly on those fast food chains from elsewhere in the nation or from other parts of the environment or whatever to make those disclosures...they were stuck." The threat of judicial action, then, may have contributed to weaken opposition to the policy, as Kersh and Morone had discussed (2005).

Finally, once again basic science played a role in the Board of Health's decision to pass the calorie labeling requirement. One Board of Health member cited a study that showed that "people are really bad at estimating the caloric content of food if you...you know...if you show

them various items of food and ask them how many calories are in there. Um...and also that people said if they knew how many calories it was at the time they were buying food, this it would make a difference with what they bought...again, the board...the...uh...department came to the board with evidence that this might actually...you know...make an impact on peoples' health. And more, what this really offers people are choices." The role of the evidence compiled by the Department of Health and Mental Hygiene staff again played a crucial role in convincing the Board of Health that the initiative was, as a whole, an appropriate one.

Conclusion

Many factors went into the Department of Health and Mental Hygiene's decision to pursue a ban on trans fat and the Board's unanimous support of the ban. At the heart of the trans fat ban is a culmination of social and political circumstances that made the topic important, the legislation possible, and in the eyes of the Board of Health, the justification reasonable.

The first factor underlying the Board of Health's unanimous vote for the ban was a belief in the scientific evidence in support of the ban and an underwhelming feeling for evidence against the ban. So the Board of Health certainly did base their decision in what we could call evidence-based policy making. One Board of Health member said, "I believe to a medical certainty that this will in fact improve the health of the public and save lives," and the other Board member said that the most important thing influencing this member's vote was the "total absence of any sort of plausible claims of any negative impacts from this policy."

Another important variable was the weakness of restaurant industry opposition, including the fact that many individual restaurateurs testified in favor of the ban. The restaurant industry was relatively disadvantaged by the preponderance of scientific evidence showing the actual and potential harms of trans fat consumption, but the industry was also limited in its effectiveness by the New York political environment. Paradoxically, this was a case in which an

interest group that many classic policymaking models would regard as advantaged actually found itself more in the position of a traditionally disadvantaged groups. With a penchant for being a trend setter in public health, an issue that could demonize any opposition to the ban, and flushed with the recent political success of the smoking ban, the restaurant industry, and other small "individual freedoms" proponents were handicapped in their opposition. The fight the industry did try to mount failed to make much of an impression on New York policy actors. The restaurant industry representative argued that the industry had not had a fair opportunity; that claim is difficult to investigate. In the end, the credibility of the trans fat ban opponents was just not great enough to stop the trans fat ban train.

Further feeding pro-ban momentum was an executive branch fueled both by successful precedents and by very strong public health advocates in the form of Mayor Bloomberg and Health Commissioner Frieden. They have set their sights on difficult pubic health vs. personal freedom initiatives, and with the success of the anti-smoking bans, the recent success of overseas trans fat bans, and a political atmosphere that could be described as one that will often privilege public good over individual choice, Bloomberg and Frieden harnessed all available political and social momentum. One Board of Health member said, "...[in] previous administrations...there had always been a sense that there were limits...there were political limits to sort of what could be done in health areas that were either unpopular or that angered a particularly powerful or affluent special interest. And in this administration, it really seemed to be driven by evidence and the professional...you know...judgment about the best thing to do."

The Board of Health also believed that, because the reasoning underlying the ban was justified by scientific evidence, they were doing something beneficial for the health of New York City. They had rejected disclosure of the amount of trans fat per serving because it was not feasible to expect many restaurants to be able to comply, even should they wish to do so. Perhaps counter-intuitively, an outright ban would be easier for restaurants to live with than

would disclosure. The Board changed policy by changing a substantial part of New Yorkers' diets in a way that disclosure could not have accomplished.

As this explanation of the ban suggests, all the while, the Bloomberg Administration was trying to make compliance with the ban easier on the restaurants. One Board of Health member said, "Because they [Department of Health and Mental Hygiene staff] had a reasonable response to many of the concerns that were voiced by the restaurant industry again, I think, looking at the revised proposal that came back after the public comments...again it seems so reasonable. I think that's why you got the unanimous vote." New York furthered the likelihood of restaurant compliance by creating a degree of public/private partnerships to help restaurants make changes. A Board of Health member put it this way: "I believe there's some kind of grant that the Heart Association actually gave to the city to create a resource center to help the restaurants experiment with you know new recipes and so on." Moreover, the member said, "I think that's like as good as it gets...when that's the way it works as a result of a law being passed that is really focused on how do we help people do this because it's a good thing we've done, not how are we going to make sure we catch and punish people who don't comply with the law." All of these changes rose from the ashes of the original, failed voluntary campaign.

Although the idea of New York as a source of policy diffusion was surely on the minds of the Board of Health and the Department of Health and Mental Hygiene, policy diffusion, in the absence of belief that the ban was good for New York City, doesn't seem to have determined votes. Mayor Bloomberg and Health Commissioner Frieden were not available to be interviewed for this research, meaning that I have no first hand knowledge of whether the industry representative's assertion – that the Mayor and Dr. Frieden had national ambitions for the ban – is credible. In any case, it is likely that changes to limit the trans fat in the American diet are inevitable. The expert observer said, "I think that trans fats will be eliminated well before that [2018] time." One Board of Health member said, "...all we were doing was possibly accelerating or claiming some credit for a trend that was going to be happening anyway...the

opportunity to make a dramatic difference in a way that would be of a benefit to the health of the public relatively quickly, but obviously the political feasibility of achieving it was substantially enhanced by the fact I think the world was going in that direction anyway."

Some limitations of this research include the fact that I interviewed a very small number of people. The Board of Health is made up of twelve individuals, only two of whom were interviewed for this research, and I was able to interview only one restaurant industry representative, no one from the staff of the Department of Health and Mental Hygiene, and no one higher up in the executive branch, such as Mayor Bloomberg or Health Commissioner Frieden. The confluence of perspectives and assessments from the five actors or observers with whom I talked, however, suggest that I have been given a fair picture of the ban's passage.

In closing, it is evident from the interviews and other sources for this research, that the New York City trans fat ban was brought about in a complex but unusually favorable political environment. The decision makers seem genuinely concerned about the health of the citizens of New York City, and they genuinely believe that the preponderance of evidence points toward health benefits from this ban. They took advantage of the political climate of New York City, including a legacy of activist government, to seize opportunities to enact policy without waiting for the City Council – the legislative branch – to act. The New York City trans fat ban represents the latest high profile case in an evolving public health history, where a government enacts legislation designed to protect the public against a chronic lifestyle-related disease. This increasing association of prevention of chronic, lifestyle-related disease – in addition to or even instead of traditional communicable concerns – may represent a real change in public health policy making approaches. Banning trans fat in restaurant foods, moreover, obviates the enormous challenge of compelling individuals to change their behavior; rather, it is restaurant recipes that must change. The New York City Board of Health may have seen the trans fat ban as a perfect marriage of the new and the old models, requiring little individual sacrifice for large public good.

Appendix: List of Structured Interview Questions

1. When the discussion over banning trans fat began, what did you think a trans fat ban would mean? What kind of science was being used – or not used – to justify proposing a ban?

1. I'd like your view on how the debate played out. Please just tell me anything you think was important to the way the decision worked out. [Probe on symbolic politics, "demonization" of trans fats ONLY if not volunteered.]

2. Was the time right for such a ban? That is, had earlier bans, like bans on smoking, prepared the ground, or did that not have anything to do with it?

3. a. **[FOR HEALTH COMMISSION MEMBERS ONLY]** When you were deciding
   i. how to vote, what was the most important thing influencing your vote?

   ii. And were you thinking about how to implement the policy? Has anything surprised you so far in the plans to implement it? [Probe on Starbucks and butter only if not volunteered.]

   b. **[FOR ALL OTHERS]** What do you think was the most important thing influencing the Health Commissioners' votes?

4. And do you think they were thinking about how to implement the policy? Has anything surprised you so far in the plans to implement it? [Probe on Starbucks and butter only if not volunteered.]

5. In deciding to implement the ban, did the Board give consideration to what New York City's ban would mean to other parts of the country?

6. Who do you think the major actors were on both sides of the debate? I have drawn an impression myself by reading material on the matter and talking to expert observers, but I'd really like to hear your view, from where you sat in the debate.

7. What difference do you foresee the trans fat ban making by 2018, 10 years after the ban is completely implemented.

8. How do you think the policy's outcomes should be measured in 2018?

9. Some people believe that the menu nutrition labeling requirement will be more important, in the long run, than will the trans fat ban, and yet the labeling requirement seemed to slip through with little attention to it. Is my impression – that it slipped through under the radar amid the trans fat discussions – accurate? Why did this happen the way it did?

10. Is there anything you think I should know about the New York City trans fat ban and the circumstances surrounding its approval and implementation that we have not already discussed?

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